



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/382,702	08/24/1999	PETER ANTHONY HOCHSTEIN	65.016-046	5578

27305 7590 09/04/2003  
HOWARD & HOWARD ATTORNEYS, P.C.  
THE PINEHURST OFFICE CENTER, SUITE #101  
39400 WOODWARD AVENUE  
BLOOMFIELD HILLS, MI 48304-5151

EXAMINER

VU, BAO Q

ART UNIT PAPER NUMBER

2838

DATE MAILED: 09/04/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	Application No. 09/382,702	Applicant(s) HOCHSTEIN, PETER ANTHONY	
	Examiner Bao Q. Vu	Art Unit 2838	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☒ This action is **FINAL**.      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 3, 7-35, 37, 38 and 40-45 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 3, 7-35, 37, 38, 40-45 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.  
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

#### Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All b) ☐ Some \* c) ☐ None of:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
\* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).  
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

#### Attachment(s)

- |   |   |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                            | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). ____   |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)        | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) ____ | 6) <input type="checkbox"/> Other:  |

## **DETAILED ACTION**

### ***Reissue Applications***

1. The reissue oath/declaration filed with this application is defective because it fails to contain the statement required under 37 CFR 1.175(a)(1) as to applicant's belief that the original patent is wholly or partly inoperative or invalid. See 37 CFR 1.175(a)(1) and see MPEP § 1414. Applicant needs a Statement similar to the statements below:

A STATEMENT THAT THE APPLICANT BELIEVES THE ORIGINAL  
PATENT TO BE WHOLLY OR PARTLY INOPERATIVE OR INVALID BY REASON OF  
A DEFECTIVE SPECIFICATION OR DRAWING, OR BY REASON OF THE  
PATENTEE CLAIMING MORE OR LESS THAN PATENTEE HAD THE RIGHT TO  
CLAIM IN THE PATENT.

For example: "Applicant believes the original patent to be partly inoperative or invalid by reason of the patentee claiming more or less than patentee had the right to claim in the patent."

### ***Claim Rejections - 35 USC § 103***

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the

invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 24-35, 37, 38, and 40-44 are rejected under 35 U.S.C. 103(x) as being unpatentable over Johnson (USP 5,463,280) in view of Power Supply Cookbook and the Motorola data sheet for the MC 34261 controller in view of Applicant Prior Art (APA) and in view of Hildebrand (USP 5,075,601).

Johnson discloses the claimed invention (see figure 8) an AC input (102), a rectifier (108), a switching power supply (106) except for the use of electromagnetic interference filter for use in the art of power light emitting diodes (LED's), the use of series-parallel LED array and for their use in traffic, pedestrian or rail crossing signal housing. The Power Supply Cookbook and the Motorola data sheet for the MC 34261 controller discloses that it is known in the art to use an electromagnetic interference filter for use with a switching power supply. It would have been obvious to one having ordinary skill in the art at the time of the invention was made to modify the power supply assembly as taught by Johnson and use an electromagnetic filter (EMI) with the switching power supply as taught by the Power Supply Cookbook and the Motorola data sheet for the MC 34261 controller since the Power Supply Cookbook teaches that the electromagnetic filter (EMI) is crucial or essential element in any power factor correction circuitry.

Applicant's Prior Art (APA) in view of Hildebrand discloses that it is known in the art to make use of series-parallel LED array in a switching power supply and for their use in traffic, pedestrian or rail crossing signal housing.

It would have been obvious to one having ordinary skill in the art at the time of the invention was made to modify the LED array as taught by Johnson, The Power Supply Cookbook and the Motorola data sheet and use the series- parallel LED array string having different current paths, (clearly shown in applicant's prior art figure 1), and for their use in traffic, pedestrian or rail crossing signal housing, since APA teaches that use of these LED arrays provides a greater benefit than the less inefficient incandescent lamps and has the added feature of a more reliable operation of the LED array, this feature highly desirable for their use in traffic, pedestrian or rail crossing signals housing.

Johnson in view of Power Supply Cookbook and Motorola data sheet and in view of Applicant's Prior Art (APA) discloses the claimed invention except for the use of a conflict monitor circuit used to help control leakage currents by providing high impedance if such conditions exists.

Hildebrand discloses that it is known in the art to provide the use of an adaptive clamp circuit used to help control leakage currents by providing high impedance if such conditions exists. It would have been obvious to one having ordinary skill in the art at the time of the invention was made to modify the device of Johnson in view of Power Supply Cookbook and Motorola data sheet and provide an adaptive clamp circuit as taught by Hildebrand, in order to lessen the effects of current leakage inherent to LED circuitry and have a more dynamic response to this recurring problem.

Application/Control Number: 09/382,702  
Art Unit: 2838

***Response to Arguments***

4. Applicant's arguments filed 6-18-2003 have been fully considered but they are not persuasive.

5. In response to applicant's arguments against the references individually, one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986).

6. The obviousness rejection is based on five different references. (See paragraph #3 above) The features of each reference are presented in each of the following paragraphs.

First, the Johnson reference was used to teach a switching power supply with power factor correction for use with a LED array.

Second, the Power Supply Cookbook and Motorola data sheet teaches the use of an electromagnetic interference filter (EMI) for use with power factor correction in a switching power supply.

Third, Applicant's Prior Art (APA) illustrates that it is known in the art to make use of series-parallel LED array in a power supply circuit and for their use in traffic, pedestrian or rail crossing signal housing.

Fourth, Hildebrand was cited to show that it is known in the art to provide the use of an adaptive clamp circuit used to help control leakage currents by providing high impedance if such conditions exists.

Application/Control Number: 09/382,702  
Art Unit: 2838

The obviousness rejection is based a combination of these five references.

7. The Johnson reference was used to teach a switching power supply with power factor correction for use with a LED array. The Johnson reference did not teach the use of an EMI filter. The Power Supply Cookbook and Motorola data sheet teaches the use of an electromagnetic interference filter (EMI) for use with power factor correction in a switching power supply.
8. The first step of the combination was take the EMI filter for its use with a power factor circuit because it is crucial or essential element in any power factor correction circuitry and combine it with the teachings of the Johnson reference.
9. The combination now teaches a switching power supply with power factor correction for use with a LED array having an EMI filter. Now the present combination does not teach that it is a series-parallel combination or used in traffic, pedestrian or rail crossing signal housing, but the Johnson reference does teach a LED array. APA teaches a series-parallel LED array combination or used in traffic, pedestrian or rail crossing signal housing in a power supply circuit.
10. The second step of the combination was made to have a series-parallel combination or used in a traffic, pedestrian or rail crossing signal housing, since it provides a more reliable and efficiency of operation as taught by APA and combine it with the teachings of Johnson and The Power Supply Cookbook and Motorola data sheet.
11. The combination now teaches a switching power supply with power factor correction for use with a LED array, being a series-parallel LED array combination or

Application/Control Number: 09/382,702

Art Unit: 2838

used in traffic, pedestrian or rail crossing signal housing in a power supply circuit, that has an EMI filter. Further, now the combination is deficient with respect to the use of the conflict monitor circuit used to help control leakage current by providing high impedance if such conditions exist. Hildebrand was cited to show that it is known in the art to provide the use of an adaptive clamp circuit used to help control leakage currents by providing high impedance if such conditions exists. The Hildebrand circuit (see figure 1A) uses a Zener diode (CR5) in combination with transistor (Q2) and that those components correspond to the Zener diode (D5) and the transistor (q1) of the claimed clamp circuit's "voltage sensing means". Hildebrand circuit uses a transistor (Q3) in combination with resistor (R7) and that those components correspond to the transistor (Q2) and the resistor (R5) of the claimed clamp circuit's "control load means". Then finally, the circuit when the traffic light is off, thereby preventing leakage current, and that it completely removes this resistor (R7) from the circuit when the light is on. This operation corresponds to that of the claimed clamp circuit, which places the resistor (R5) of its "control load means" in the circuit when the light is off and then completely removes that resistor (R5) from the circuit when the light is on.

12. The final step of the combination was to take the teachings of Hildebrand of the adaptive clamp circuit used to help control leakage currents and make the final combination with APA, Johnson, The Power Supply Cookbook and Motorola data sheet.

13. In response to applicant's argument the cited references does not disclose a power supply which " maintains current and voltage wave forms substantially in phase and provides a regulated current output with respect to variations in the input line." This



Application/Control Number: 09/382,702  
Art Unit: 2838

feature is what power factor correction circuitry does. All current will causes losses in the supply and distribution system. A load with a power factor of 1.0 results in the most efficient loading of the supply and a load with a power factor of 0.5 will result in much higher losses in the supply system. A poor power factor can be the result of either a significant phase difference between the voltage and current at the load terminals, or it can be due to a high harmonic content or distorted/discontinuous current waveform. Poor load current phase angle is generally the result of an inductive load such as an induction motor, power transformer, lighting ballasts, welder or induction furnace. A distorted current waveform can be the result of a rectifier, variable speed drive, switched mode power supply, discharge lighting or other electronic load.

### ***Conclusion***

14. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Application/Control Number: 09/382,702

Art Unit: 2838

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Bao Q. Vu whose telephone number is (703) 308-2318.

The examiner can normally be reached on Monday-Fridays, 8:00AM- 5:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael S. Sherry can be reached on (703) 308-1680. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.



Bao Q. Vu  
Primary Examiner  
Art Unit 2838

August 27, 2003